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**ENERGY EFFICIENT DESIGN FOR RESIDENTIAL AT
PULAU PINANG**

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DECLARATION

"I declare that this Final Project/Dissertation is the result of my own research and that all sources are acknowledge in the references"

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Date : 5 JANUARY 2024

ABSTRACT

Houses with poor ventilation design contribute to an odor in the house as well as health issues. High household electricity costs for air conditioning and a lack of knowledge of the advantages of energy-efficient design in housing development happen because of poor housing design in terms of ventilation. The aim of this research was to investigate the type of energy-efficient design for residential. There are three objectives in this research, which are to identify the type of energy-efficient design for residential buildings, determine the connection between types of energy-efficient design and electricity consumption, and develop recommendations for enhance energy efficient practices for residential in Malaysia. This scope of study is to investigate the contractor's participation in house development. As a result, the population of this study was limited to Penang State. This research is limited to the groups of contractors in Grade 7 in the construction industry at Seberang Perai Tengah, Pulau Pinang. It was chosen as the selected region in Northern Malaysia to undergo this survey due to its rapid development in every corner of its district. The data was collected based on the objectives of this research. The findings show that majority of the respondents are agree on the need of having doors that can be adjusted to maximize passive solar advantages. Apart from that, there is a strong and favorable bias toward Building Envelope Optimization, emphasizing its considered critical role in boosting natural thermal comfort. From the research also demonstrates an overwhelming and constant support among respondents for NGOs and environmental groups to actively participate in increasing energy conservation and sustainability by promoting environmentally friendly activities. The recommendation of this research is to ensure energy-efficient solutions are cost-effective aligns with the practical considerations of stakeholders. Striking a balance where energy efficiency doesn't overly strain financial resources is essential, especially considering the potential incorporation of various technological devices or equipment. These suggestions and recommendations collectively aim to guide the research toward fostering sustainable, cost-effective, and climate-resilient practices within the construction and design domains.

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TABLE OF CONTENTS

DECLARATION.....	
ABSTRACT.....	i
ACKNOWLEDGEMENT.....	ii
TABLE OF CONTENTS.....	iii
LIST OF FIGURES.....	x
LIST OF TABLES.....	xi
LIST OF ABBREVIATIONS.....	xiii
CHAPTER 1.....	1
INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background of study.....	1
1.2 Problem Statement.....	4
1.3 Research Aim.....	8
1.4 Research Objective.....	8
1.5 Research Question.....	8
1.6 Scope of research.....	9
1.7 Research methodology.....	9
1.8 Chapter outline.....	9
1.9 Summary.....	11